

REU: Research Challenges in Identifying Integer Sequences Using the OEIS

The [Mathematics and Computer Science Department](#) of [Muhlenberg College](#) invites applications for a NSF Research Experiences for Undergraduates (REU) program in the summer (May 31 -- July 29) of 2016 that will concentrate on research projects associated with the [On-Line Encyclopedia of Integer Sequences®](#) (OEIS®) and its role in stimulating new research. Sequences play an important role in number theory, combinatorics and discrete mathematics, among many other fields. They enumerate objects in sets and define relationships among items or properties shared between them. Integer sequences have inspired mathematicians for centuries. A particular emphasis of the program will be to discuss the important role the OEIS has played in developing conjectures in areas that include number theory, algorithmic and enumerative combinatorics, combinatorial number theory, and many other mathematical fields, as well as the tools necessary for identifying such conjectures.

Students will work in integrated teams with mentors and immerse themselves in open-ended mathematics research projects. Participating students will be provided stipend of \$4,500, on-campus housing with support for a summer meal plan, and travel expenses to and from the Muhlenberg College campus. Students will be assigned to research teams based on their interests and each team will be mentored by two faculty advisors. In addition to working on their collaborative projects, students will attend seminars, give presentations, and enjoy fun social activities. They will be encouraged to attend and give presentations at their home institutions as well as local and national professional meetings. **Due to funding agency rules, only U.S. Citizens and Permanent Residents who will be full time undergraduate students in Fall 2016 are eligible to apply. Women, minorities, and students with disabilities are encouraged to apply.**

For more information about the program and how to apply, visit the program's website at <http://muhlenberg.edu/main/academics/mathcs/reu/> or contact program directors Dr. Eugene Fiorini (eugenefiorini at muhlenberg dot edu) or Dr. Byungchul Cha (cha at muhlenberg dot edu) or call 484-664-3299.

Funding for this program is generously provided by the [National Science Foundation](#) (NSF-DMS 1560019).